

## ABSTRACT

A CDMA mobile communication system determines the number of input information bits (5 bit) and the number of symbols to be punctured, and  
5 encodes/decodes the input information bits (5bits). A transmitter encodes the input information bits into 16 coded symbols with a first order Reed-Muller code, and punctures four coded symbols from the 16 coded symbols so as to generate a codeword having the minimum distance. A receiver then receives punctured coded symbols, i.e., the codeword, and inserts zero (0) bits at the punctured  
10 positions. Further, the receiver calculates reliabilities between the zero-inserted coded symbols with all of first order Reed-Muller codewords, and outputs input information bits for the coded symbols corresponding to the highest reliability.